Diagnosis

Cuticle without lateral differentiation. Outer labial setae and cephalic setae usually in one circle. Buccal cavity with three equal mandibles made of two branches fused posteriorly; the two branches completely fused in some species (e.g., *S. rotundicauda* sp. nov.). Pharynx without posterior or anterior bulb. Cup-shaped pre-cloacal supplements present.

Remarks

Synonchiella denticulata Cobb, 1933, *S. ferox* Cobb, 1933 and *S. siphonolaimoides* (Allgén, 1940) were considered doubtful by Gerlach (1964) due to incomplete descriptions. The latter author also transferred *S. annulata* Gerlach, 1952 and *S. orcina* Gerlach, 1952 to the genus *Latronema.*

Valid species

S. dilarae Fadeeva, 1988
S. edax Aissa & Vitiello, 1970
S. forceps (Gerlach, 1957)
S. hopperi Ott, 1972
S. japonica Fadeeva, 1988
S. lutosa Gagarin & Klerman, 2007
S. major Murphy, 1965
S. micramphis (Schuurmans-Stekhoven, 1950)
S. microspiculoides (Schuurmans-Stekhoven, 1946)
S. minor Murphy, 1965
S. minuta Vitiello, 1970
S. riemanni Warwick, 1970
S. roscoffiensis De Coninck, 1965
S. siphonolaimoides (Allgén, 1940)
S. spiculora Murphy, 1962
S. truncata Cobb, 1933

Synonchiella rotundicauda sp. nov.

Figs 1-3, Table 1
urn:lsid:zoobank.org:act:2145BDA7-84F7-4DF4-A401-7B706F0C0088

Diagnosis

Synonchiella rotundicauda sp. nov. is characterised by cephalic setae 0.25 cbd long, mandibles each with two pairs of hooks and two wing-like projections laterally, multispiral amphideal fovea with 3.5 turns, eight cup-shaped pre-cloacal supplements, and short tail (2.2. abd) with rounded extremity.

Etymology

The species name is derived from the Latin *rotundus* (= round, circular) and *cauda* (= tail), referring to the unusual rounded shape of the tail.

Material examined

Holotype

NEW ZEALAND: ♂, NIWA 88354, 17 Apr. 2007, NIWA cruise TAN0705, station 172, eastern Chatham Rise crest, 43.5162° S, 178.6167° W, 422 m, fine sand (53.5%), silt/clay (23.5%), very fine sand (18.9%).

Paratype

NEW ZEALAND: 1 ♀, NIWA 88355, 15 Nov. 2011, NIWA cruise TAN1116, station 107, northern flank of Chatham Rise, 42.8625° S, 177.9253° E, 467 m.

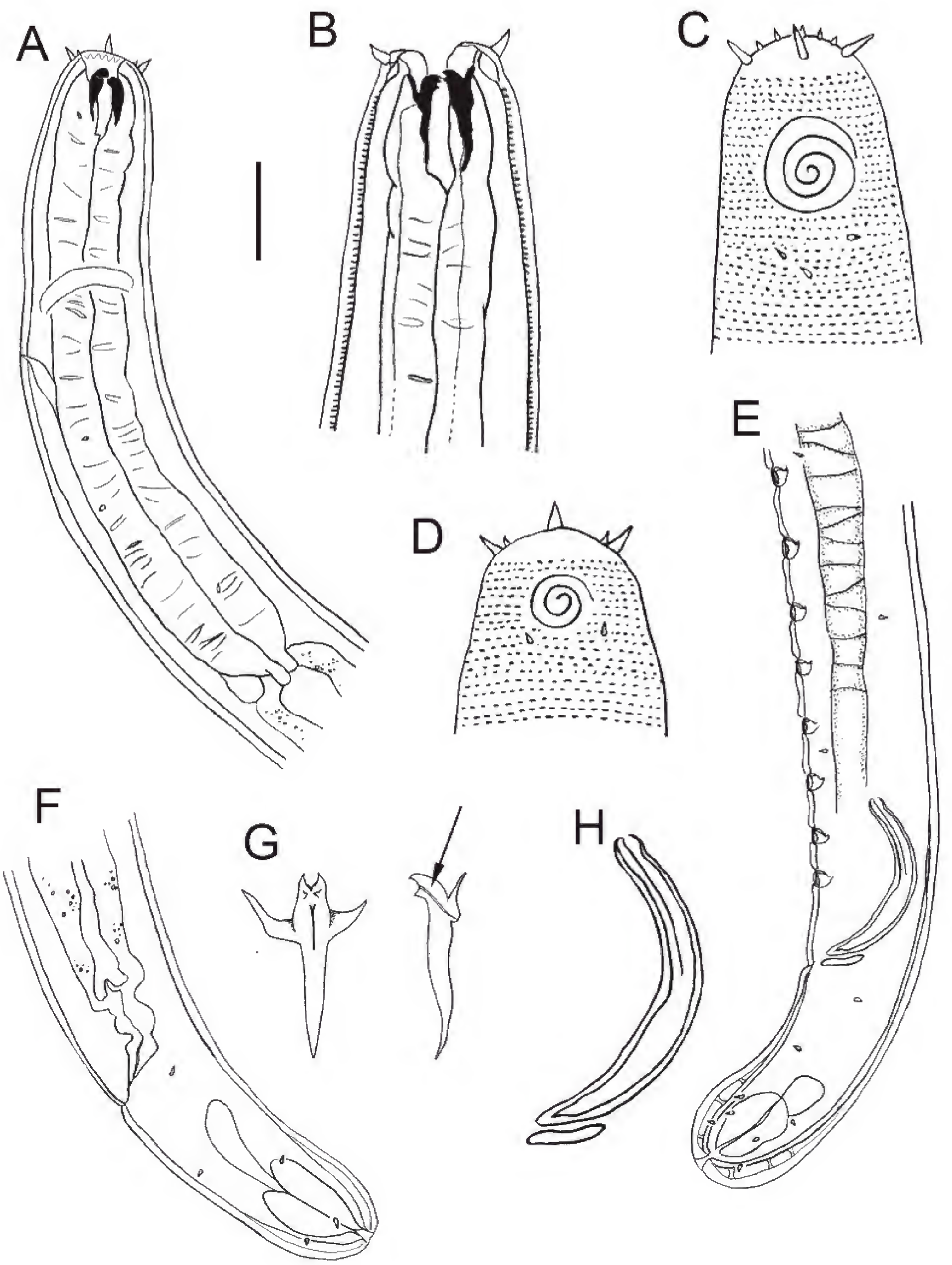

Fig. 1. *Synonchiella rotundicauda* sp. nov. **A**. Anterior body region of female. **B**. Male head. **C**. Surface view of male head. **D**. Surface view of female head. **E**. Male posterior body region. **F**. Female posterior body region. **G**. Mandibles, en face (left) and lateral (right) views. **H**. Spicule and gubernaculum. Arrow shows position of duct connecting anterior end of marginal tube and buccal cavity. Scale bar: A, E-F = 25 µm; B-D = 15 µm; G = 8 µm; H =13 µm.

Description

Male

Body cylindrical, tapering slightly towards anterior extremity. Cuticle ~ 2.0 µm thick throughout body, thicker in tail region, 4 µm, with transverse rows of punctations, without lateral differentiation. Somatic setae short and sparse, in four sublateral rows. Head blunt, rounded, not set off. Six conical inner labial papillae, ~ 1.5 µm long; six longer outer labial setae, 4 µm long, and four cephalic setae, ~ 1 µm long, situated close to or slightly anteriorly to outer labial setae (Fig. 1C). Amphideal fovea cuticularised, multispiral, 3.5 turns. Anterior portion of buccal cavity short and narrow, with inconspicuous rhabdions at anterior extremity. Posterior buccal cavity with three equal mandibles, 15 µm long, with one mandible situated dorsally and two sub-ventrally; each mandible with two pairs of hooks at anterior extremity and two larger wing-like projections emerging laterally and pointing anteriorly; mandible also with small duct apparently connecting anterior extremity of marginal tubes and opening into buccal cavity near anterior end of mandible (Fig. 1G). Posterior buccal cavity surrounded by slightly swollen pharyngeal

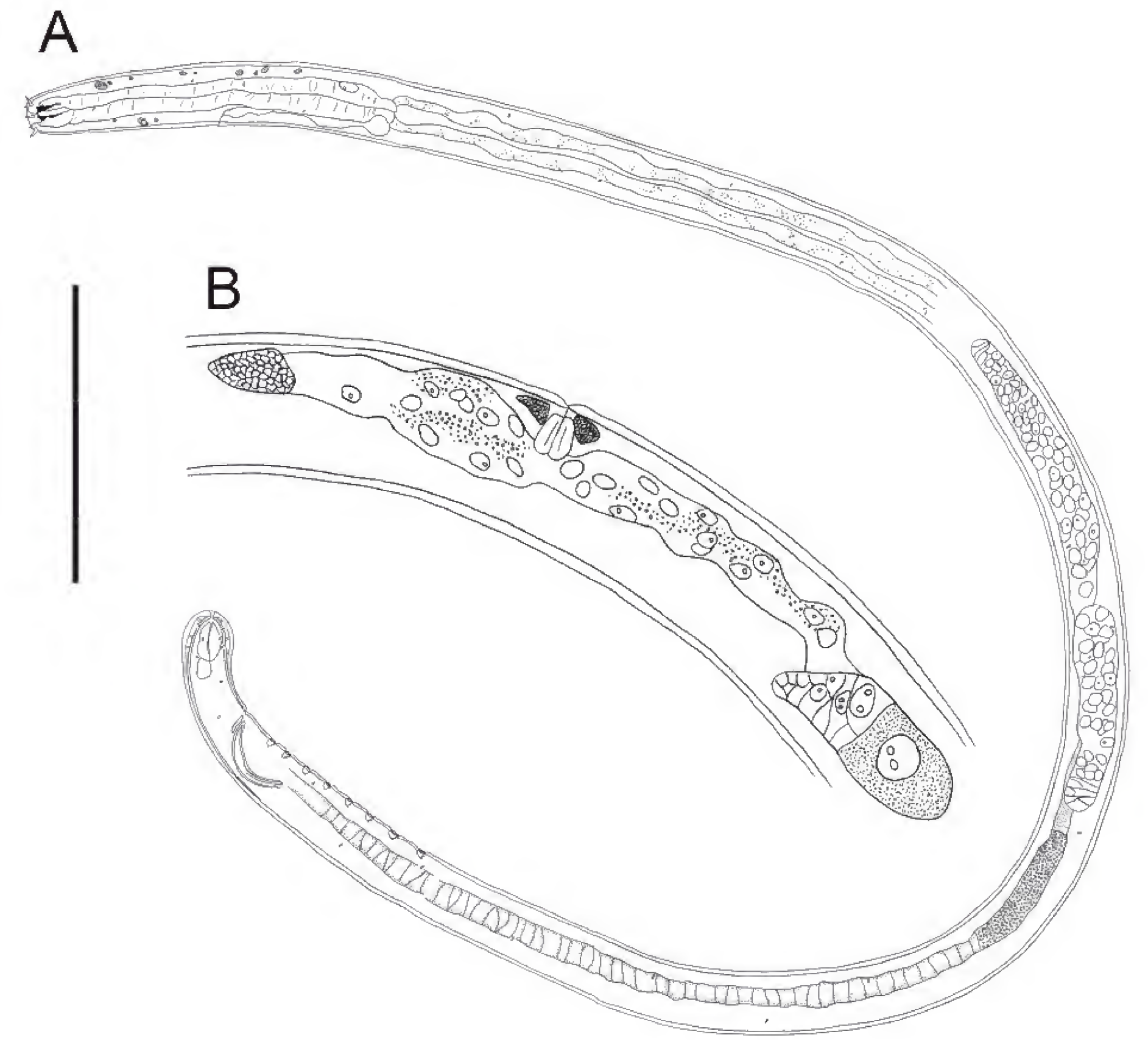

Fig. 2. *Synonchiella rotundicauda* sp. nov. **A**. Entire male. **B**. Female reproductive system. Scale bar: A = 150 µm; B = 75 µm.

tissue, pharynx widening posteriorly, not forming true bulb. Several light refractive, golden-brown corpuscules present in pharyngeal region (also present in tail; Fig. 3A, B). Nerve ring at 45% of pharynx length from anterior end. Secretory-excretory (S-E) system present, cellular body of ventral gland small, situated immediatly posterior to pharynx, pore situated ~ 0.5 cbd posterior to nerve ring.

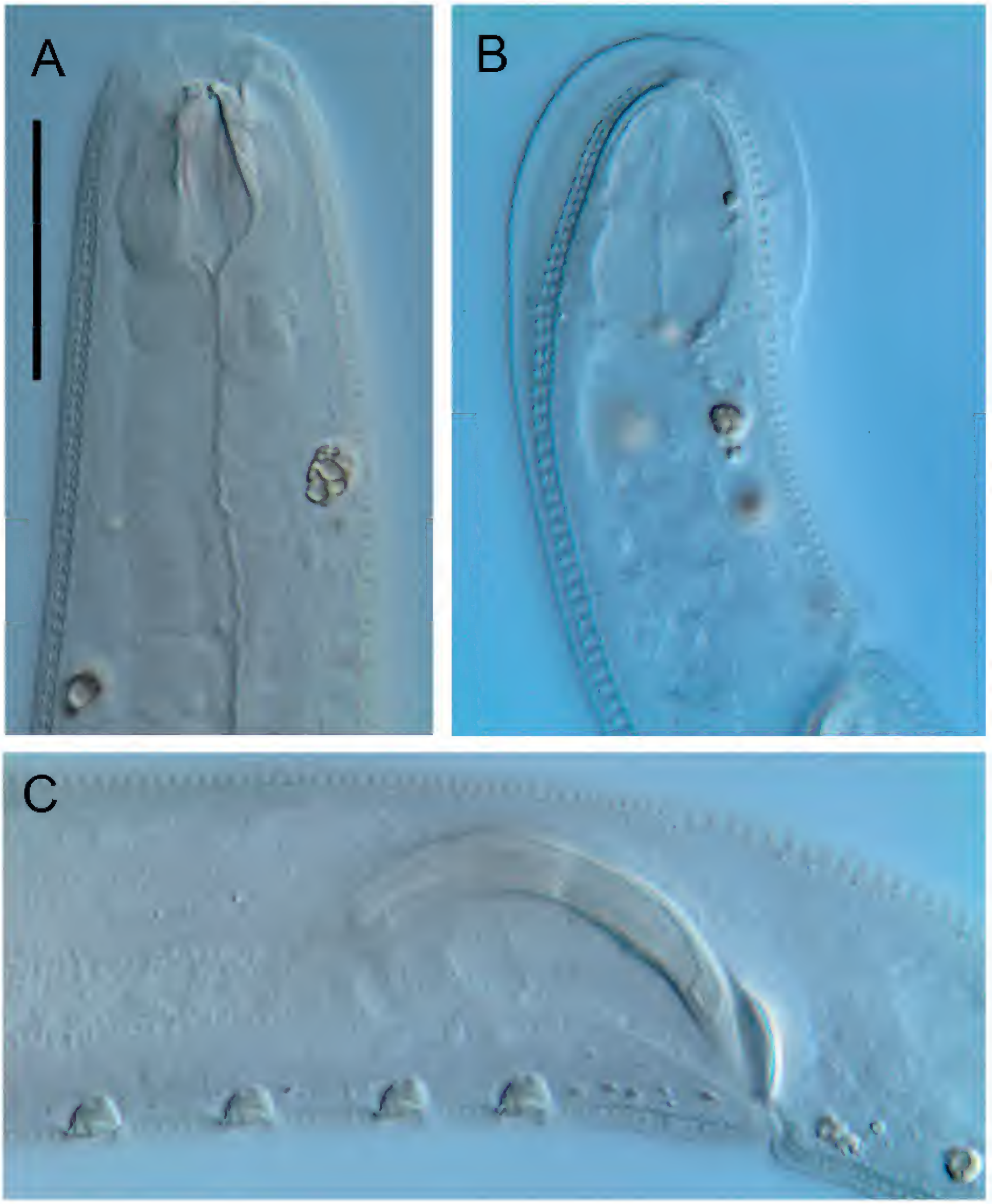

Fig. 3. *Synonchiella rotundicauda* sp. nov. Light micrographs. **A**. Anterior body region of male showing buccal cavity. **B**. Tail of male. **C**. Spicular apparatus. Scale bar = 25 µm.

Table 1. Morphometrics (µm) of *Synonchiella rotundicauda* sp. nov. and *Pseudocheironchus ingluviosus* gen. et sp. nov. — a = body length/maximum body diameter; abd = anal body diameter; b = body length/pharynx length; c = body length/tail length; cbd = corresponding body diameter; L = body length; n = number of specimens; V = vulva distance from anterior end of body; %V = V/total body length.

Species	***Synonchiella rotundicauda* sp. nov.**		***Pseudocheironchus ingluviosus* gen. et sp. nov.**		
	Male Holotype	Female Paratype	Males Holotype	Paratype	Female Paratypes
n	-	1	-	1	2
L	1411	1172	1034	992	940, 1209
a	43	32	25	25	25, 27
b	8	7	12	9	9, 12
c	23	20	24	22	21, 26
Body diameter at level of cephalic setae	16	18	20	18	18, 21
Body diameter at level of amphids	26	30	23	24	25, 29
Length of cephalic setae	4	4-5	2	2	2, 3
Amphid height	14	7	9	12	7
Amphid width	14	10	17	16	10
Amphid width/cbd (%)	54	33	74	67	40
Amphid from anterior end	12	11	4	6	2, 5
Length of mandibles	15	14	18-20	19-21	22, 24
Nerve ring from anterior end	79	54	49	54	53, 54
Nerve ring cbd	33	36	39	35	38, 42
Excretory pore from anterior end	98	75	84	94	-
Pharynx length	180	163	88	105	99, 104
Pharynx diameter at base	24	24	25	24	29, 31
Pharynx cbd at base	36	38	40	37	39, 41
Max. body diam.	33	37	41	39	38, 44
Spicule length	51	-	51	48	-
Gubernaculum length	11	-	11	9	-
Anal body diam.	28	27	30	31	27, 32
Tail length	61	60	43	46	44, 46
Tail length/abd	2.2	2.2	1.4	1.5	1.4, 1.6
V	-	573	-	-	438, 555
%V	-	49	-	-	46, 47
Vulval body diameter	-	37	-	-	38, 43

Reproductive system diorchic with outsretched testes. Both anterior and posterior testes on right of intestine. Oval-shaped, nucleated sperm cells, ~ 6 × 7 µm. Spicules paired, strongly curved, 1.8 abd long, widest in middle portion and tapering distally; thin cuticular projection extending from proximal end over almost half of spicule length. Gubernaculum small, plate-like, without lateral pieces, parallel to distal end of spicules. Mid-ventral row of eight cup-shaped pre-cloacal supplements, ~ 4 µm wide and 4 µm deep, situated 6-8 µm apart; distance between supplements increasing slightly anteriorly. Pre-cloacal supplements thickly cuticularised with nerve entering anterior side of cup. No pre-or post-cloacal setae or papillae observed. Tail short, with rounded posterior extremity, posterior half with few short setae and ducts, some of which are not connected to setae; terminal setae not observed. Three caudal glands and small spinneret present.

Female

Similar to males, but with smaller amphideal fovea, 2.5 turns. Reproductive system with posterior ovary reflexed, on right of intestine; anterior ovary poorly developed (Fig. 2B). Vulva located at mid-body. Vaginal glands present, *pars proximalis vaginae* surrounded by constrictor muscle.

Remarks

In contrast to *Synonchiella rotundicauda* sp. nov., all other *Synonchiella* species are characterised by relatively long, conico-cylindrical tails with a thin cylindrical portion. *S. minor* is characterised by a relatively short conical tail (2.9 abd), but can be distinguished from *S. rotundicauda* sp. nov. in having smaller amphid with 1.75 turns (*vs.* 2.5 turns in *S. rotundicauda* sp. nov.), longer spicules (200 *vs.* 51 µm), and more pre-cloacal supplements (42-46 *vs.* 8).

Genus ***Pseudocheironchus*** gen. nov.

urn:lsid:zoobank.org:act:D308E75C-FF14-44AB-9DA3-E2297C691AF6

Type species

Pseudocheironchus ingluviosus gen. et sp. nov.

Diagnosis

Cuticle without lateral differentiation or only weak lateral differentiation. Outer labial sensillae and cephalic setae in one circle; cephalic setae slightly longer than outer labial sensillae. Anterior portion of buccal cavity reduced, with six thin, slightly cuticularised rhabdions; posterior buccal cavity with three equal mandibles. Pharynx short, with well-developed anterior and posterior bulbs. Male with cup-shaped pre-cloacal supplements. Tail short.

Etymology

This generic name refers to the close similarity between the new genus and *Cheironchus*. The two genera share a feature not found in any other genus of the Selachinematidae, *viz*., a pharynx with conspicuous anterior and posterior bulbs.

Remarks

Pseudocheironchus gen. nov. is similar to *Cheironchus* in having a pharynx with well-developed anterior and posterior bulbs and cup-shaped pre-cloacal supplements. *Pseudocheironchus* gen. nov. differs from the latter in having a cuticle without or only weak lateral differentiation (*vs.* lateral differentiation of larger, irregularly spaced punctations in *Cheironchus*), cephalic setae only slightly longer than the outer labial sensillae (*vs.* cephalic setae much longer than outer labia sensillae), and a posterior buccal cavity with three equal mandibles (*vs.* dorsal mandible reduced). *Pseudocheironchus* gen. nov. is also similar